

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for identifying a compound that modulates aging, the method comprising the steps of :

(i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide or a cell that expresses the lbp-7 polypeptide, wherein the lbp-7 polypeptide is encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid listed in Tables 1 or 3-7 the complement of the T22G5.2 nucleic acid of Tables 3 and 6, or a nucleic acid encoding a polypeptide listed in Tables 1 or 3-7 for mammalian homologs and orthologs thereof wherein stringent conditions are incubation in 5X SSC, 1% SDS at 65°C followed by washing in 0.2X SSC, and 0.01% SDS at 65°C; and

(ii) determining the functional effect of the compound upon the lbp-7 polypeptide or the cell that expresses the lbp-7 polypeptide and comparing it to a control sample without the compound, wherein a difference from the control indicates that the compound modulates aging.

2. (Currently amended) The method of claim 1, wherein the homolog or ortholog is a human homolog or ortholog nucleic acid encodes the lbp-7 polypeptide of Table 3 and 6.

3. (Currently amended) The method of ~~claim 2~~ claim 1, wherein the human homolog or ortholog is a human cellular stress response gene, a human antimicrobial gene, a human metabolic gene, a human steroid or lipid soluble hormone synthesis gene, or a human fatty acid desaturation gene lbp-7 polypeptide binds fatty acids.

4. (Canceled)

5. (Currently amended) The method of claim 1, wherein the lbp-7 polypeptide is encoded by a nucleic acid that ~~hybridizes under stringent conditions to a nucleic acid listed in Tables 5-6, or a nucleic acid encoding a polypeptide listed in Tables 5-6, or mammalian homologs or orthologs thereof~~ is expressed in *C. elegans* and is upregulated when daf-16 activity is inhibited and is downregulated when daf-2 activity is inhibited.

6. (Currently amended) The method of claim 1, wherein the ~~functional effect~~ is determined in vitro.

7. (Canceled)

8. (Currently amended) The method of claim 6, wherein the ~~functional effect~~ is determined by measuring ~~ligand, substrate, or cofactor~~ fatty acid binding to the polypeptide.

9. (Canceled)

10. (Currently amended) The method of claim 1, wherein ~~the cell that expresses the lbp-7 polypeptide is expressed in a eukaryotic host or host cell and the polypeptide is contacted with the compound in a living cell.~~

11. (Currently amended) The method of claim 10, wherein the host cell is ~~derived from *C. elegans*~~ a *C. elegans* cell, a mouse cell, a rat cell, or a human cell.

12. (Currently amended) The method of claim 10, wherein ~~the cell that expresses the lbp-7 polypeptide is a host~~ is *C. elegans*, mouse, rat, or human.

13. (Currently amended) The method of claim 10, wherein the ~~functional effect is a determined by measuring ligand, substrate, or cofactor~~ fatty acid binding to the lbp-7 polypeptide.

14. (Currently amended) The method of claim 10, wherein the ~~functional effect is determined by measuring transcriptional activation~~ transcription of the nucleic acid.

15. (Currently amended) The method of claim 10, wherein the functional effect is determined by evaluating an age-associated ~~parameters~~ parameter.
16. (Currently amended) The method of claim 10, wherein the functional effect is determined by evaluating expression of an age-associated gene.
17. (Original) The method of claim 15, wherein the age-associated parameter is lifespan.
18. (Original) The method of claim 1, wherein the modulation is inhibition of aging.
- 19 (Currently amended) The method of claim 1, wherein the compound is an antibody, an antisense molecule, an RNAi molecule, or a small molecule.
20. (Currently amended) The method of claim 18, wherein inhibition of aging occurs by inhibition of a expression or activity of the lbp-7 polypeptide ~~encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid encoding a polypeptide comprising an amino acid sequence selected from the group consisting of the genes listed in Tables 1 or 3-7 or human homologs and orthologs thereof.~~
21. (Currently amended) A method for evaluating a compound for modulation of aging, the method comprising the steps of:
- (i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide, wherein the polypeptide is encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid listed in Tables 1 or 3-7 the complement of the T22G5.2 nucleic acid of Tables 3 and 6, or a nucleic acid encoding a polypeptide listed in Tables 1 or 3-7 or mammalian homologs and orthologs thereof wherein stringent conditions are incubation in 5X SSC, 1% SDS at 65°C followed by washing in 0.2X SSC, and 0.01% SDS at 65°C;
- (ii) determining the functional effect of the compound upon the lbp-7 polypeptide;
- and

(iii) contacting a host or host cell expressing the protein lbp-7 polypeptide with the compound and evaluating an age-associated parameter of the host or host cell and comparing it to a control without the compound, wherein a difference from the control indicates that the compound modulates aging, thereby evaluating a the compound for modulation of aging.

22. (Currently amended) The method of claim 21, wherein the ~~homolog or ortholog is a human homolog or ortholog~~ nucleic acid encodes the lbp-7 polypeptide of Table 3 and 6.

23. (Currently amended) The method of claim 22, wherein the ~~human homolog or ortholog is a human cellular stress-response gene, a human antimicrobial gene, a human metabolic gene, a human steroid or lipid-soluble hormone synthesis gene, or a human fatty acid desaturation gene~~ lbp-7 polypeptide binds fatty acids.

24. (Canceled)

25. (Currently amended) The method of claim 21, wherein the polypeptide is encoded by a nucleic acid that ~~hybridizes under stringent conditions to a nucleic acid listed in Tables 5-6, or a nucleic acid encoding a polypeptide listed in Tables 5-6, or mammalian homologs or orthologs thereof~~ is expressed in *C. elegans* and is upregulated when daf-16 activity is inhibited and is downregulated when daf-2 activity is inhibited.

26. (Currently amended) The method of claim 21, wherein the lbp-7 polypeptide is recombinant.

27. (Currently amended) The method of claim 21, wherein the compound is an antibody, an antisense molecule, an RNAi molecule, or a small molecule.

28-30. (Canceled)

31. (Currently amended) The method of claim 21, wherein the functional effect is determined in vitro.

32. (Currently amended) The method of claim 21, wherein the functional effect is determined in a eukaryotic host organism or host cell.

33. (Currently amended) The method of claim 21, wherein the age-associated parameter is lifespan, ~~wherein the age-associated parameter is stress resistance.~~

34-45. (Canceled)

46. (Currently amended) A method of identifying a compound that modulates aging, the method comprising the steps of:

(i) contacting a test compound to a living or biochemical system that ~~comprising~~ comprises a *C. elegans* target protein selected from the group consisting of: a lipid binding protein-7 (lbp-7) protein, wherein the lbp-7 protein has 95% identity to the lbp-7 protein in Tables 1 or 3-7 3 and 6; and

(ii) evaluating a property associated with expression or activity of the target lbp-7 protein and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates lbp-7 protein expression or activity; and

(iii) evaluating an aging-associated parameter of a *C. elegans* organism contacted with the test compound and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates aging.

47-49. (Canceled)

50. (Currently amended) ~~A method of evaluating a plurality of compounds, the method comprising the steps of: providing a plurality of compounds; for each compound of the plurality, evaluating a functional effect of the respective compound on a polypeptide that is encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid listed in Tables 1 or 3-7, or a nucleic acid encoding a polypeptide listed in Tables 1 or 3-7 or mammalian homologs and orthologs thereof; and if the compound has a functional effect as determined by a criterion, contacting the compound to a cell or organism, and evaluating an age related parameter~~

~~of the cell or organism~~ The method of claim 1, 21, or 46, wherein a plurality of compounds is assayed.

51-52. (Canceled)

53. (Original) The method of claim 50, wherein the plurality of compounds comprises a library of structurally related chemical compounds.

54-59. (Canceled)

60. (New) A method for identifying a compound that modulates aging, the method comprising the steps of :

- (i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide, wherein the lbp-7 polypeptide has 95% identity to the lbp-7 polypeptide of Tables 3 and 6, and
- (ii) determining the effect of the compound upon the lbp-7 polypeptide, and comparing it to a control sample without the compound, wherein a difference from the control indicates that the compound modulates aging.

61. (New) A method for evaluating a compound for modulation of aging, the method comprising the steps of :

- (i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide, wherein the lbp-7 polypeptide has 95% identity to the lbp-7 polypeptide of Tables 3 and 6;
- (ii) determining the effect of the compound upon the lbp-7 polypeptide; and
- (iii) contacting a host or host cell expressing the lbp-7 polypeptide with the compound and evaluating an age-associated parameter of the host or host cell and comparing it to a control without the compound, wherein a difference from the control indicates that the compound modulates aging, thereby evaluating the compound for modulation of aging.

62. (New) A method of identifying a compound that modulates aging, the method comprising the steps of:

(i) contacting a test compound to a living or biochemical system that comprises a *C. elegans* lipid binding protein-7 (lbp-7) protein, wherein the polypeptide is encoded by a nucleic acid that hybridizes under stringent conditions to the complement of the T22G5.2 nucleic acid of Tables 3 and 6, wherein stringent conditions are incubation in 5X SSC, 1% SDS at 65°C followed by washing in 0.2X SSC, and 0.01% SDS at 65°C; and

(ii) evaluating expression or activity of the lbp-7 protein and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates lbp-7 protein expression or activity; and

(iii) evaluating an aging-associated parameter of a *C. elegans* organism contacted with the test compound and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates aging.